Work Order ID 106410

106410

August-29-13 1:39:38 PM

Item ID: D4099-1 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Bracket
Start Date: 8/29/13 **Start Qty:** 4.00 *4* **Cust Item ID:**
Required Date: 8/29/13 **Req'd Qty:** 4.00 *4* **Customer:**
Reference:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** MCS **Date:** 13-08-30 **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr / **Revision Nbr**									
D4099 / A									
100		0.00							
100	FLOW WATER JET					4	0		Au 13.11.08
Waterjet	**Memo**	0.00							
FLOW CNC Waterjet	1-Cut as per Dwg Dwg Rev: A Prog Rev: A 2-Deburr if necessary								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110						4	0		Au 13.11.08
QC	**Memo**	0.00							
Quality Control									
		DAS 27 ~~9-89~~							
120	QC8- Inspect parts - second check	0.00							
120						4			
QC	**Memo**	0.00 B 11 08							
Quality Control									

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other _____

Work Order ID 106410

106410

August-29-13 1:39:38 PM

Item ID: D4099-1 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Bracket
Start Date: 8/29/13 **Start Qty:** 4.00 *4*
Required Date: 8/29/13 **Req'd Qty:** 4.00 *4*
Reference:
Cust Item ID:
Customer:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00				4x			13/11/11 DAS 36 9-89
130									
Small Fab	**Memo**	0.00							
Small Fab	C'sink holes as per dwg								
140	Bend as per dwg	0.00		DAS 30 9-89					
140	NC BRAKE					4			13/11/11
Brake NC	**Memo**	0.00							
Brake NC									
150	QC5- Inspect part completeness to step on W/O	0.00 DAS 27 9-89				4			
150									
QC	**Memo**	0.00 B11 11							
Quality Control									

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

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- ☐ Centre Not Concentric to O/S
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- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

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- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
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- ☐ Over/Under tolerance
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- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

_____

_____

_____

Work Order ID 106410

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August-29-13 1:39:38 PM

Item ID: D4099-1 **Accept** *N900040100* **Setup Start** *NS1*
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Required Date: 8/29/13 **Req'd Qty:** 4.00 *4* **Customer:**
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Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Chemical Conversion Coat per QSI005 4.1	0.00				4	8/13-11-13		
160 HandFinish Hand Finishing	**Memo**	0.00							
170	Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3	0.00				4	6 13-11-14.		DAS 34 9-89
170 Powdercoat Powder Coating	M125028. **Memo** Start Time: 8:30 Oven Temperature: 300° Finish Time: 9:00.	0.00							
180	QC3- Inspect Part Finish	0.00				4			
180 QC Quality Control	**Memo**	0.00							

DAS 27 9-89

B 11 15

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
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- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

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- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
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- ☐ Out of Calibration
- ☐ Out of Sequence
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- ☐ Wrong Stock Pulled
- ☐ Other

_____

_____

_____

Work Order ID 106410

106410

August-29-13 1:39:38 PM

Item ID: D4099-1 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
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Start Date: 8/29/13 **Start Qty:** 4.00 *4*
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Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
290	Identify as per dwg & Stock Location:_____	0.00							
290									
Packaging	**Memo** Stock	0.00							
Packaging									
300	QC21- Final Inspection - Work Order Release	0.00							
300									
QC	**Memo**	0.00							
Quality Control									

13/4/15 (4)

13/11/1849

13-11-15

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
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- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

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- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

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- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

_____

_____

_____

DART AEROSPACE LTD	Work Order:	106410
Description: Bracket	Part Number:	D4099-1
Inspection Dwg: D4099 **Rev:** A		Page 1 of 1

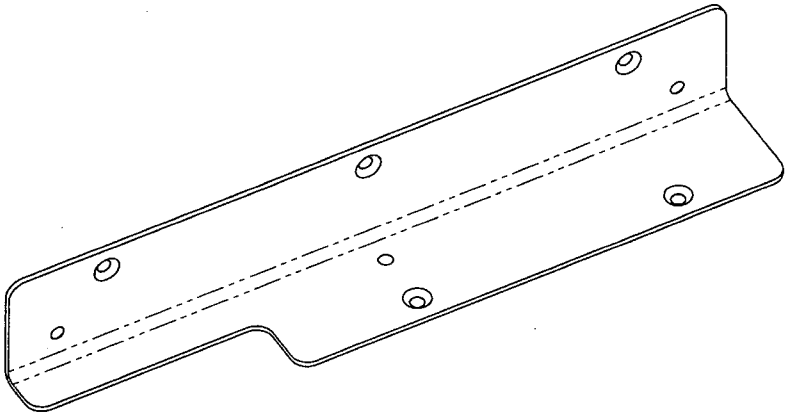
FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.201	+0.005/-0.001	.202	-		V	Dkm-01
4.000	+/-0.010	4.000	-		V	
1.500	+/-0.010	1.500	-		V	
0.375	+/-0.010	.375	-		V	
2.689	+/-0.010	2.689	-		V	
3.44	+/-0.030	3.44	-		V	
0.750	+/-0.010	.750	-		V	
7.50	+/-0.030	7.49	-		V	
11.00	+/-0.030	11.00	-		T	Dkm-06
9.500	+/-0.010	9.500	-		T	
1.215	+/-0.010	1.215	-		V	
2.219	+/-0.010	2.219	-		V	
2.44	+/-0.030	2.44	-		V	
0.080	+/-0.010	.081	-		V	

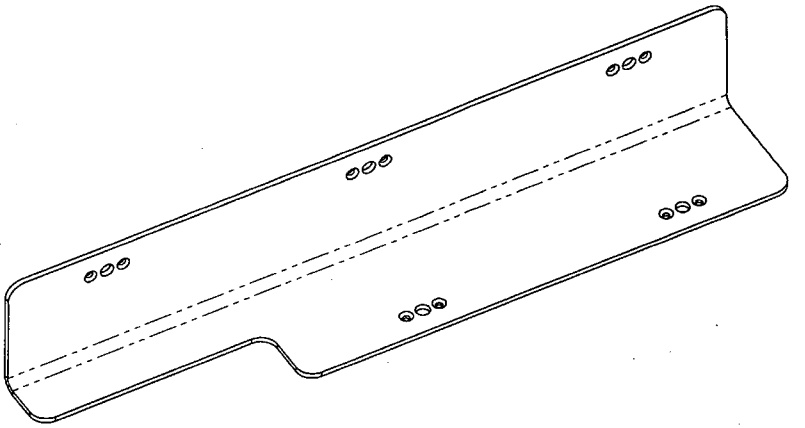
DAS 27

Measured by:		Audited by:	9-89	Preliminary Approval:	
Date:	13.11.08	Date:	13/11/08	Date:	

Rev	Date	Change	Revised by	Approved
A	12.11.09	New Issue	KJ	



D4099-1 BRACKET



D4093-3 BRACKET

106410
MLJ
13-08-30

RELEASED
2010 -05- 17

REV.	DESCRIPTION	BY	DATE
A	NEW ISSUE	MB	10.05.05

DESIGN	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN		
CHECKED	DRAWING NO. D4099	REV. A
MFG. APPR.		SHEET 1 OF 3
APPROVED	TITLE BRACKET	SCALE NTS
DE APPR.		
DATE 10.05.05		

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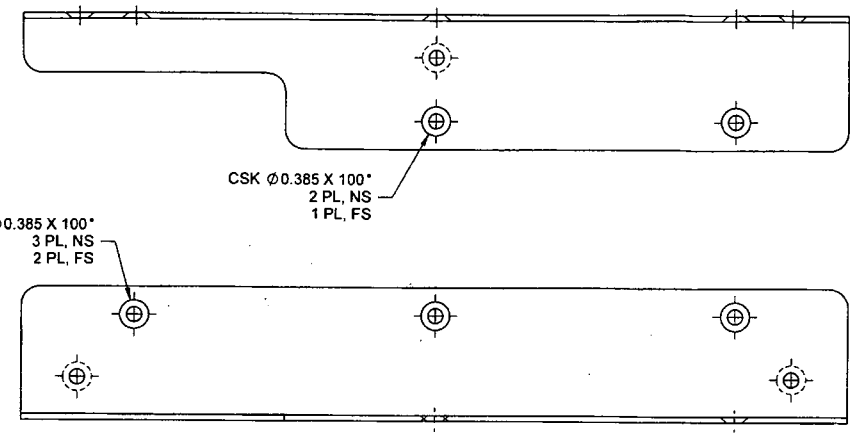
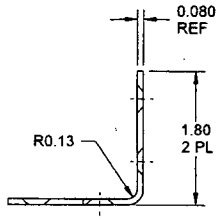
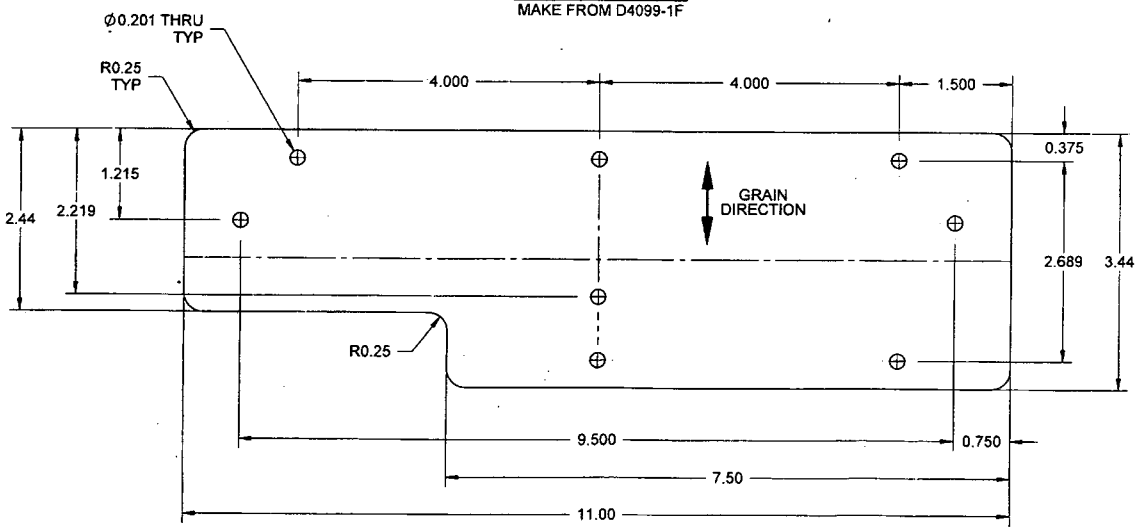
1064/10



D4099-1 BRACKET
MAKE FROM D4099-1F





D4099-1F FLAT PATTERN

RELEASED
2010 -05- 17

NOTES:
1) MATERIAL: 6061-T6 (OR 6061-T62) ALUMINUM SHEET, 0.080 THICK PER AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209
REF. DART SPEC. M6061T6S.080
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GREY SANDTEX (4.3.5.6) PER DART QSI 005 4.3
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: 0.26 lbs

DESIGN		**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN		
CHECKED		DRAWING NO. D4099 REV. A
MFG. APPR.		SHEET 2 OF 3
APPROVED		TITLE BRACKET SCALE NTS
DE APPR.		
DATE 10.05.05		

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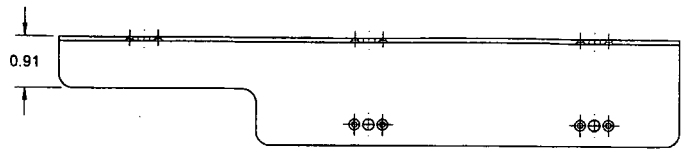
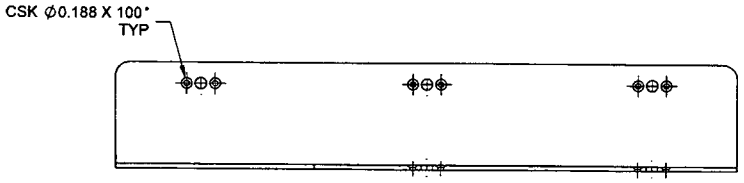
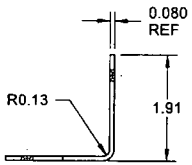
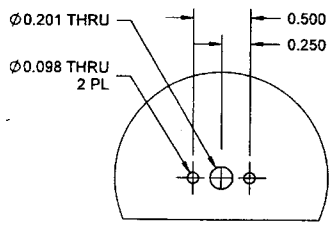
106410



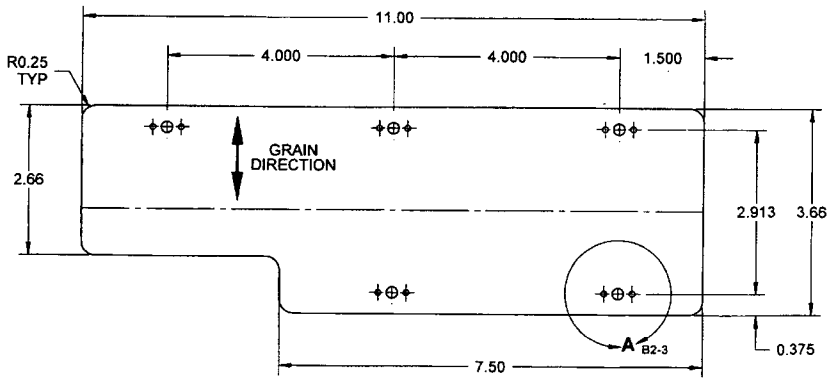




D4099-3 BRACKET
MAKE FROM D4099-3F



DETAIL A A5-3
SCALE 2X, 5 PL



D4099-3F FLAT PATTERN

RELEASED
2010 -05- 17
MP

NOTES:
1) MATERIAL: 6061-T6 (OR 6061-T62) ALUMINUM SHEET, 0.080 THICK PER AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209
REF. DART SPEC. M6061T6S.080
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: 0.28 lbs

DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN		
CHECKED		DRAWING NO. D4099 REV. A
MFG. APPR.		SHEET 3 OF 3
APPROVED		TITLE BRACKET SCALE NTS
DE APPR.		
DATE 10.05.05		

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